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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)

Implementation of Sections of)
The Cable Television Consumer)
Protection and Competition Act)
of 1992)

Rate Regulation)

MM Docket No. 92-266

RECEIVED

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**FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY**

**PETITION TO FILE SUPPLEMENTAL COMMENTS
AND PLAN FOR INTERIM RELIEF FOR LOW DENSITY AND
SMALLER CABLE BUSINESSES**

The Small Cable Business Association ("SCBA") petitions the Commission for permission to file the attached Supplemental Comments and Plan for Interim Relief for Low Density and Smaller Cable Businesses in this docket.

Upon continued investigation and review of the Commission's benchmark rate structure, SCBA has uncovered certain additional information which it believes is essential for the Commission to take into consideration and which Commission staff members have requested SCBA to provide. Therefore, SCBA respectfully requests that the attached Supplemental Comments be accepted and made part of the permanent record of this proceeding.

Respectfully submitted,

**SMALL CABLE BUSINESS
ASSOCIATION**

Dated: January 29, 1994

By: 

Eric E. Breisach
HOWARD & HOWARD
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Attorneys for the Small Cable
Business Association

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**SUPPLEMENTAL COMMENTS AND PLAN FOR INTERIM RELIEF FOR
LOW DENSITY AND SMALLER CABLE BUSINESSES**

Introduction

The average profile of systems included in the Commission's database used to determine benchmark rates is that of a large (11,000 subscriber), high density (59 homes per mile) system. This profile simply does not fit the realities of many smaller cable businesses, especially those serving lower density rural areas. Smaller cable businesses take a double hit in the benchmark process because: (1) they have higher cost structures not factored into the benchmark process (no large economies of scale); and (2) on average, they offer fewer numbers of unregulated services therefore they need to charge more for tiered services to pay their bills. Unless adjustments are made, those systems not conforming to the average benchmark profile will be forced into wholesale cost-of-service filings which, for at least small systems, flies in the face of the Congressional mandate to reduce administrative burdens.

Although necessary, a specific simplified benchmark adjustment to reflect the cost-based differences in the benchmarks is currently not possible for two reasons: (1) detailed

average cost information is not currently available; and (2) detailed cost information regarding the cost components of the existing benchmark rates is not available. To accurately and simply create such adjustments, a detailed cost study, much like the one the Commission had under consideration in the fall of 1993 must be undertaken. Nevertheless, absent comprehensive information, the Small Cable Business Association ("SCBA") sets forth several basic cost-based adjustments that should be made to rates determined using the benchmark system.

At this point, with respect to more detailed adjustments, all the SCBA could do is add to the demonstrative evidence examples of why the benchmark adjustments are needed. SCBA believes that the Commission is well aware of its concerns, and is more interested in a solution rather than further evidence of the problem. Therefore, SCBA proposes a simple three-step plan:

1. The Commission launches a comprehensive survey of the operating costs of cable systems to determine what adjustments to the benchmarks are appropriate based on cost differentials, density and system size and reperforming the regression using representative data from smaller MSOs as part of the total database.

2. In the interim, the Commission adopts the specific adjustments for cost differentials outlined in these comments or a minimum 10 percent adjustment to the benchmarks for systems not affiliated with one of the top-10 MSOs. This would be only a temporary adjustment pending completion of the comprehensive cost survey.

3. The Commission then makes adjustments to the benchmarks based on the results of the comprehensive survey.

The Commission has previously recognized that the per channel rates charged by top-25 MSOs are over 20 percent lower than smaller cable businesses. In fact, the rate differential in the benchmark database between these types of systems was 31 percent. Nevertheless, this differential is masked, if not truly lost, for at least some operators as a result of the regression techniques used by the Commission.

SCBA has consulted with several statisticians and reviewed the Commission's regression analysis in depth. There are no easy answers. There are some relationships, however, which exist between larger and smaller companies which are not accurately reflected by this or any other regression technique. These issues cannot be viewed only in the abstract. Rather, they can make the difference between financial viability and bankruptcy for some smaller cable companies. Immediate relief is needed for these operators.

Adjustment For Cost Differentials

As the Commission is well aware, operators of systems with certain attributes (i.e., low density) have repeatedly informed the Commission that the rate reductions required by the benchmark rate system often result in eradication of any profit margin such systems had. The benchmark rate system, as it is based on a multiple regression analysis of rates charged by other systems, does not reflect the unique cost structures of certain types of systems. SCBA offers the following suggestions to quantify the amount of the adjustment that should be made to the benchmark structure.

Adjustments For Low Density Systems

The weighted average density of the systems in the Commission's benchmark study was 59 homes per mile, or, in terms of subscribers, 38 customers per mile. Many systems, particularly smaller and more rural systems, do not have densities anywhere near these levels. Consequently, they have greater construction, financing, operational and maintenance costs which are spread over a lower number of subscribers.

To the extent that operators have higher operating costs than the average of the systems used to determine the benchmark rates, adjustments in the form of benchmark add-ons should also be permitted. The most accurate way to quantify the amount of such adjustments would be for the Commission to conduct the cost study it contemplated last fall. While SCBA recognizes the effort such a study would entail, it is the only way to resolve these issues with any degree of certainty. To keep the adjustment mechanism simple, the Commission must either include in its study the average cost components so that increments can be measured in terms of percentage add-ons to the benchmark, or it must make some other simplifying adjustments. SCBA simply does not have the information or the resources to perform such a study on its own. But we are more than willing to cooperate in such a study. In the interim, SCBA suggests the specific benchmark add-on on a per month basis to rates, with the cost per channel computed by dividing the appropriate density adjustment by the number of tiered channels.¹

¹ See chart attached as Exhibit A. The total adjustment ranges from \$25.71 for systems with 10 subscribers per mile to \$0.79 with 35 subscribers per mile before prorating the adjustments between regulated and unregulated services based on the number of channels in each.

Adjustments Based On System Size

Additional adjustments to the benchmark are required for systems of smaller size as they incur certain fixed capital and operating costs which are spread over a relatively smaller subscriber base than the average of the benchmark database (i.e., headend costs). Although the benchmark rate tables are stratified by system size, the differences in such rates are de minimis² and simply do not appear to take such cost differentials into consideration.

In August 1993, SCBA accumulated various financial statistics from its members. Included in this information were average capital and operating costs associated with headend equipment. SCBA has aggregated and averaged the responses received and computed a series of adjustments based on amortization of fixed headend costs over various subscriber bases. A summary of the results is enclosed as Exhibit B. These specific benchmark adjustments would be prorated based on the number of channels in tiers subject to rate regulation versus total channels, with the amount allocated to regulated tiers added to the rates determined using the benchmark method. These adjustments would be in addition to any density-sensitive adjustments discussed above.

Once again, the only way to quantify the numerous other adjustments required to properly reflect density-sensitive and system size-sensitive costs is for the Commission to perform a detailed cost study.

²For example, the spread between benchmarks for systems with 1,000 and 10,000 subscribers providing 25 channels, of which 20 are satellite signals, results in a rate differential of only 0.6 percent.

The Benchmark Rates Must Be Increased By At Least 10 Percent

An alternative to the foregoing cost-based adjustments to the benchmarks is to compute an adjustment based on a system's lack of affiliation with a large MSO. This approach would provide substantive rate relief to many small cable businesses while avoiding the theoretical entanglement of adjusting a system based on comparable/competitive rates with adjustments based on the cost of providing services.

FCC Database Is Not Representative Of Small Companies

Significant differences exist between a small and a large cable system. Similarly differences exist between a small and a large cable operator (MSO) as do costs between a low and a high density cable system. When the FCC's database used to create the benchmark rates is stratified between systems owned or affiliated with the largest 25 MSOs³ and all others, it is apparent that the systems chosen by the Commission do not present an average profile of small cable systems and/or small cable companies.

³SCBA is not attaching any significance to the distinction between top-25 MSOs and all other operators. SCBA has selected this break-point for illustrative purposes only recognizing that it has historically been the dividing point the Commission has used to contrast rate structures of cable operators. See e.g., *Report*, In the Matter of Competition, Rate Deregulation and the Commission's Policies Relating to the Provision of Cable Television Service, MM Docket 89-600, Released July 31, 1990. SCBA does not acknowledge or even suggest that this distinction is the delineation point or affects the definition of a small versus a large cable business. Rather, the definition of a small cable business must be promulgated in conjunction with and approved by the Small Business Administrator.

For example, consider the following table of averages computed for the Commission's benchmark database as computed by sub-group:

Attribute	Top 25 MSO	Non-Top 25 MSO
Number of Subscribers	19,345	6,880
Homes per mile (weighted)	59	64
Homes per mile (unweighted)	61	61
Number of Pay Channels	6	4
Rates for Regulated Services	\$0.70	\$0.92

As can be seen from the forgoing, the smaller company segment of the Commission's database does not reflect reality. The sample in the database is heavily skewed towards systems which face competition, either deemed through the existence of broadcast signals (typically found in more urban areas) and/or head-to-head competition (i.e., artificially low rates). Consequently, in its zeal to develop the "competitive" component of its database, the Commission has failed to include many traditional cable systems that serve a smaller number of subscribers, serve lower density areas and/or have fewer economies of scale. Had the Commission included such systems in its database, the evidence on the record to date strongly suggests that the rates determined under the benchmark formula would have been higher.

The Problems With Averaging

The regression analysis used by the Commission to develop the benchmark rate formula on which the benchmark rate tables are based is a sophisticated averaging

technique. In short, for almost half of the smaller operators in the database itself, the benchmark formula does not work.⁴ Consider further that these are the systems used to derive the formula and are skewed towards systems that face competition (i.e. rates are presumably lower). Nevertheless, the benchmark formula indicates that many of these rates are simply too high.

For illustrative purposes, assume that the government were to prescribe employee compensation limits. Further assume that the minimum subsistence level for a family of four were \$20,000 per year and that the government prohibits employers from paying annual average employee compensation in excess of \$30,000. An employer could pay half of its workers \$45,000 per year and the other half \$15,000 per year and be in full compliance with the law. From a macro perspective, the employees earn an average of \$30,000 which is above the minimum subsistence level. Despite the acceptable average, the employees earning \$15,000 do not have the cash to meet their essential needs. This is much how the benchmark system works. Gross inequities can exist on a large scale forcing those operators en masse into cost-of-service filings.

In fact, the current benchmark structure is cost-blind. Take for example two 800 subscriber systems with identical channel line-ups in identical communities. One system is owned by one of the largest cable operators. It can charge the same rate as the other

⁴Of the approximately 200 systems in the database that are not affiliated with a top-25 MSO, according to an evaluation of the data by Dr. Gerald L. Sievers, Professor of Mathematics and Statistics at Western Michigan University, 50 percent would have lower rates under the benchmark formula than they currently charged, even though the actual rates of these systems were used to compute the benchmark formula. See Exhibit C for support as well as Dr. Sievers' resume.

system which is a "Mom and Pop" business even though the former system has a dramatically lower cost structure.

Justification For 10 Percent Adjustment

If systems, especially in the competitive component of the database, cannot support their current rates, is it justified to require all other operators to adhere to a pricing formula which will likely place well more than half of current cable systems outside the benchmark parameters. It is not, consequently, the results of the benchmark regression line need to be increased. SCBA proposes that, if the Commission does not immediately adopt the proposed interim cost-based adjustments, the Commission should increase the benchmark rates for smaller cable businesses by at least 10 percent⁵. Not only will this adjustment reduce the unfairness of using an average, it will also offset, to some degree, the lack of representativeness in the benchmark database of traditional smaller systems and smaller cable businesses.

While the 10 percent amount can be justified solely in terms of minimizing the adverse impact of averaging, other factors also clearly support the necessity for an increase in benchmark rates. Take for example that when the Commission's database is segregated between the top-25 MSO and non-top-25 MSO systems, it reveals that, on average, the larger systems offer 2 more channels of unregulated per-channel services. For illustrative

⁵SCBA has attached tables as Exhibit C demonstrating the number of systems based on MSO size groupings that were included in the FCC's benchmark database whose current rates can be justified by the benchmark formula.

purposes, assume that each of the channels is offered at \$8.00 per channel⁶, the cost of programming is 45 percent and the penetration rate is 25 percent⁷. This results in a monthly contribution to margin of \$2.60 per subscriber.

This additional contribution to margin lessens the importance of the amount charged for basic tier services. Using the individual employee income hypothetical introduced above, it would be similar to having two spouses who each work outside the home. With a two-income household, the importance of maximizing the income of the main income earner is somewhat lessened. Therefore, an employee earning \$15,000 can better afford to keep his/her job since their spouse who also earns \$15,000 per year means that revenue above the minimum level of subsistence. This is much the difference between the larger and smaller operators. The larger operators typically have a an unregulated second revenue stream which is greater due to the offering of a greater number of services.

While this \$2.60 differential could be justified as a benchmark add-on independently, in the absence of immediately adopting such an adjustment, it, in and of itself, goes a long way towards justifying the 10 percent increase.⁸ In fact, SCBA could justify an interim rate adjustment of well over 10 percent to adjust for the effects of the averaging, the density and

⁶The rates for incremental pay services are typically lower than rates for the initial pay services.

⁷SCBA has reviewed various published trade studies, including those published by Paul Kagan Associates and has been unable to locate any recent study revealing the amounts charged for such services and their penetration rates.

⁸Take for example, a 35 subscriber system serving 1,000 subscribers. Assume further that the system has 20 satellite channels. Using the Commission's benchmark tables, the benchmark rate would be \$0.608 per channel. The benchmark add-on of \$2.60 when spread over 35 regulated channels results in a change of \$0.074, or an increase of 12.2 percent.

alternate revenue stream issues, however, SCBA limits its interim rate adjustment proposal to 10 percent as a reasonable compromise between those who believe that the rate should be significantly increased for these systems versus those who believe that no adjustment should be permitted.

Although through these Supplemental Comments, SCBA has used the demarcation point of top-25 versus non-top-25 MSOs, this is only because that is the demarcation point that the Commission has used in the past to analyze similar rate issues. In fact, as an interim measure, SCBA strongly urges the Commission to adopt the 10 percent interim adjustment for all systems not affiliated with one of the 10 largest MSOs. As the charts enclosed as Exhibit "C" indicate, the 10 percent adjustment eliminates the averaging disparity for an additional 22 percent of the systems in the database that are not affiliated with one of the top 25 MSOs (the percentage of systems not affected by the averaging of rates increased from 50 percent to 72.5 percent). A similar relationship exists for the 11 through 25 largest MSOs (a 10 percent increase in the regression equation increases the number of systems not affected by the averaging disparity from 39.5 percent to 60.5 percent).

Even though a break-point following the 10 largest MSOs would appear to provide adjustments to a huge percentage of the cable subscribers in the country, due to the concentration of subscribers by the top 10 MSOs, this is not the case. The proposed interim 10 percent across the board adjustment would not affect more than 60 percent of the cable subscribers in this country⁹, yet provide substantive rate relief to those systems requiring

⁹According the National Cable Television Association, Cable Television Developments, November 1993, citing Paul Kagan Associates, Inc, Cable TV Investor, August 31, 1993, p. 10, the top 10 MSOs serve 32,045,000 cable subscribers. Similarly, the total number of cable

relief, most of which are the smaller, low density systems. The proposed adjustment would not change the benchmark rates of the largest 10 MSOs, thereby leaving the rates of at least 60 percent of cable subscribers unchanged.

The Competition Report Documented Unique Price Structures Between MSO and Non-MSO Systems.

In its 1990 Competition Report, the Commission recognized a consistent historic rate differential based on whether a cable system was affiliated with a large MSO¹⁰. The Commission noted that during the period 1986 through 1989, while the rates charged for tiered services were approximately the same for MSO and non-MSO systems, the MSO systems consistently offered a greater number of channels. During the period 1986 through 1989, the difference in the number of channels offered widened, increasing the disparity between the cost per channel of MSO systems and non-MSO systems. This trend was summarized by the Commission as follows:

On November 30, 1986, MSO systems averaged five more channels than non-MSO systems (23 vs. 18). By December 31, 1989, the difference had grown to seven channels (30 vs. 23). For MSO systems, price per channel ranged from \$0.50 on November 30, 1986 to \$0.54 on December 31, 1989, while for non-MSO systems these figures were \$0.61 and \$0.65, respectively.

The Commission's own data demonstrates that on a per-channel basis, non-MSO systems rates are 20 percent higher than MSO systems. An analysis of the database used

subscribers in the United States totalled 53,375,474. Therefore, 21,330,474 subscribers, or 40 percent, would be potentially impacted by this adjustment.

¹⁰Competition Report at footnote 52. For these purposes, the Commission defined affiliation with a large MSO to exist if any of the 25 largest MSOs had an ownership interest greater than 10 percent in their systems as of December 31, 1989 (referred to as "MSO systems" and "non-MSO systems").

to derive the benchmark rates demonstrates that not only does this price differential still exist, but that it has widened.

The Benchmark Database Evidences Widening Polarity Between MSO and Non-MSO Price Structures

Of the 377 systems in the Commission's benchmark database, as best as SCBA can determine, slightly more than half, are non-top 25 MSO systems. The per channel rates of the non-top 25 MSO systems averaged \$0.92, compared to the MSO systems per channel rate of \$0.70¹¹. In other words, according to the benchmark database, on a per-channel basis, non-MSO rates are approximately 31 percent higher than MSO rates. This demonstrates that the disparity between these price structures has widened since 1989.

The Benchmark Process Blurs This Distinction

To say that the historic relationship is hidden by the benchmark process is an understatement. The distinction based on the size of the operator is lost. Careful analysis of the regression analysis suggests that some of the differential is built into part of the benchmark rates. For example, the smaller MSO systems tend to offer fewer channels, therefore their observation points are concentrated on one end of the regression line with higher per channel rates. Larger MSOs conversely are concentrated on the opposite end of the regression line¹². Therefore, the benchmark process has changed the nature of the

¹¹SCBA stratified the benchmark rate database between those systems affiliated with the current 25 largest MSOs and those that were not. The data in fields relating to equipment and installation charges, tier charges (all net of franchise fees) were equated to a monthly per subscriber amount. The resulting total was divided by the number of tiered channels to determine an average per channel monthly subscriber revenue amount.

¹²It is because of this polarization of the data that the Commission's regression analysis creates unique results for many systems owned by smaller MSOs. A smaller MSO offering

differential from one based on the size of the MSO to one based on the number of channels.

Whether or not the differential is built into the rates, simply put, the differential is not available to all smaller MSOs. For example, a smaller MSO offering 40 channels will only be allowed to charge the same rate as a large MSO, even though the smaller MSO has a higher cost structure. Conversely, a larger MSO with a system offering only 20 channels will yield the benefit of higher rates, even though its MSO may bring economies of scale to the operation which a smaller MSO simply cannot achieve.

The Proposed Benchmark Adjustment

Until the Commission either conducts a cost study and makes the benchmark database more representative, SCBA proposes that the Commission allow systems to make one of two interim adjustments: (1) for all systems to make the basic density and size adjustments SCBA has proposed; or (2) for systems not affiliated with one of the largest 10 MSOs to increase their benchmark rate by at least 10 percent.

Summary

The benchmark rates simply do not provide an adequate revenue stream to cover the costs of smaller cable systems and/or those systems serving less densely populated areas. SCBA has set forth certain proposed adjustments. However, a comprehensive cost study needs to be performed. In the interim, SCBA proposes that the Commission adopt the basic

a greater number of channels is forced into a pricing system of the larger MSO even though their cost structures are fundamentally different. Even performing separate regressions for each grouping of MSOs does not resolve the problem since the data observations are so concentrated for each group that the resulting regression line is meaningless outside of the area in which the observations are concentrated.

cost based adjustments or a 10 percent adjustment factor to the benchmark rates for those systems not affiliated with a top-10 MSO to compensate for the cost-based inequities.

Respectfully submitted,

**SMALL CABLE BUSINESS
ASSOCIATION**

Dated: January 29, 1994

By: 

Eric E. Breisach

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ALL-STATE LEGAL SUPPLY CO.

Recovery of Density Sensitive Costs

Small Cable Business Association

January 29, 1994

Density of Subscribers Per Mile

5	10	15	20	25	30	35	38
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Recovery of Construction Costs

Original Cost (1)	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Depreciable Life (Years)	12	12	12	12	12	12	12
Monthly Depreciation	208	208	208	208	208	208	208
Cost per Subscriber	41.67	20.83	13.89	10.42	8.33	6.94	5.48
Benchmark Average	(5.48)	(5.48)	(5.48)	(5.48)	(5.48)	(5.48)	(5.48)
Increased Monthly Cost Per Subscriber	36.18	15.35	8.41	4.93	2.85	1.46	0.00

Return on Invested Capital

Average Net Book Value (2)	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Cost of Capital Rate (FCC presc. rate)	11.25%	11.25%	11.25%	11.25%	11.25%	11.25%	11.25%
Annual Cost of Capital	1,688	1,688	1,688	1,688	1,688	1,688	1,688
Convert to Monthly	12	12	12	12	12	12	12
Monthly Cost of Capital per Mile	141	141	141	141	141	141	141
Cost per Subscriber	28.13	14.06	9.38	7.03	5.63	4.69	3.70
Benchmark Average	(3.70)	(3.70)	(3.70)	(3.70)	(3.70)	(3.70)	(3.70)
Increased Monthly Cost Per Subscriber	24.42	10.36	5.67	3.33	1.92	0.99	0.00

Major Density-Based Adjustments

(Amounts (3) to be added to total monthly subscriber bill for all regulated services)

Number of Subscribers Per Mile

5	10	15	20	25	30	35	38
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Recovery of Construction Costs	36.18	15.35	8.41	4.93	2.85	1.46	0.00
Return on Invested Capital	24.42	10.36	5.67	3.33	1.92	0.99	0.00
	60.61	25.71	14.08	8.26	4.78	2.45	0.00

(1) Original cost based on estimate published in The Cable TV Financial Databook, Paul Kagan Associates

(2) Assumes 50 percent depreciated plant

(3) Amounts must be first prorated between the number of channels on regulated and unregulated services



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Recovery of Costs Sensitive to System Size

Small Cable Business Association

January 29, 1994

Number of Subscribers	500	1,000	1,500	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000	11,000
Headend Capital Costs (1)	122,405	122,405	122,405	122,405	122,405	122,405	122,405	122,405	122,405	122,405	122,405	122,405	122,405
Monthly Depreciation (12 yr life)	850	850	850	850	850	850	850	850	850	850	850	850	850
Return on Capital (50% of inv. at 11.25%)	574	574	574	574	574	574	574	574	574	574	574	574	574
Operating Costs -													
Monthly payroll (1)	941	941	941	941	941	941	941	941	941	941	941	941	941
Monthly Maintenance & Repair (1)	496	496	496	496	496	496	496	496	496	496	496	496	496
Utilities (1)	228	228	228	228	228	228	228	228	228	228	228	228	228
Total Monthly Headend Cost	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089	3,089
Number of Total Subscribers	500	1,000	1,500	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000	11,000
Cost per Subscriber	6.18	3.09	2.06	1.54	1.03	0.77	0.62	0.51	0.44	0.39	0.34	0.31	0.28
Cost Per Benchmark Average	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)
Addition to Total Benchmark Rate (2)	5.90	2.81	1.78	1.26	0.75	0.49	0.34	0.23	0.16	0.11	0.06	0.03	0.00
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====

(1) Cost based on average results of SCBA member survey

(2) Gross adjustment must be prorated by each system based on the number of channels on tiers subject to regulation versus total channels



AFFIDAVIT OF GERALD L. SIEVERS, Ph.D.

STATE OF MICHIGAN)
)ss.
COUNTY OF KALAMAZOO)

1. I am employed as a Professor in the Department of Mathematics and Statistics at Western Michigan University in Kalamazoo, Michigan. A summary of my professional qualifications and excerpts of relevant expertise are attached as Attachment "1" to this Affidavit.
2. I have reviewed the document entitled "Exhibit E" of the Federal Communications Commission's ("Commission") May 3, 1993 *Report and Order* in MM Docket 92-266 that details the statistical evaluation methods used to develop the Commission's benchmark cable television rate structure.
3. I performed various statistical analyses of the data set released by the Commission which I am informed was used to compute the benchmark regression analysis. Based on segregation of the data between those affiliated with one of the 10 largest multiple system operators ("MSO"), the 11 through 25 largest MSOs and all other smaller MSOs and independent operators, I have performed analyses to determine whether the actual price per channel of each system in the latter two categories correlates to the predicted price using the Commission's regression equation. I have further multiplied the Commission's equation by varying percentage coefficient (e.g., 5%, 10%, 15%, etc.) to establish the effect of such changes on the number of systems for each of the two groups where predicted rates exceed actual rates. The results for the group of non-top 25 MSOs is attached as Attachment "2". The results for the 11 through 25 largest MSOs are attached as Attachment "3".

Further, your affiant sayeth not.

Gerald L. Sievers
GERALD L. SIEVERS, Ph.D.

Subscribed and sworn to before me this 29th day of January, 1994.

Rebecca J. Hanthorn
Rebecca J. Hanthorn

Notary Public

Kalamazoo County, Michigan

My Commission Expires: 5-28-97

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RESUME

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Education

University of Iowa Degree: Ph.D., 1967
Field: Statistics
University of Iowa Degree: M.S., 1964
Field: Mathematics
St. Mary's College: B.A., 1962
Major: Mathematics, Physics; Minor: Theology

Professional Experience

Professor of Mathematics and Statistics, Western Michigan University
(1978-present); Associate Professor (1971-78) Assistant Professor (1967-71)
Visiting Associate Professor, University of California at Berkeley (1974-75)
Visiting Professor, University of North Carolina (1981-82)

Selected Professional Activities

Statistics Program Coordinator, Western Michigan University (1988-present)
President of Southwest Michigan Chapter of the ASA (1984-86)
Director of Statistical Laboratory, Western Michigan University (1978-82)
Statistical Consultant, Academic Computer Center at Western Michigan University
(1975-76)

Selected Grant Activities

"Comparative Efficacy of Alprazolam and Placebo in Treatment of Panic Attacks,"
The Upjohn Company (1990-91)
"Effects of High Doses of ANSAID on the Renal Function of Healthy Young and
Elderly Patients," The Upjohn Company (1989-90)
"Research on Nonparametric Method for Linear Models," Office of Naval Research
(1978-83)
Western Michigan University Faculty Research Fellowships (1974, 1978 and 1985)

Recent Publications Most Relevant to the Project

"A Robust Two Stage Multiple Comparison Procedure with Application to a Random
Drug Screen." (1989). *Biometrics*, Vol. 45, 1281-1297, (with J. McKean and
T. Vidmar).
"A Robust Multiple Association Coefficient for the Rank Analysis of Linear Models."
(1988). accepted by the *Journal of the American Statistical Association*.